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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,889	08/01/2005	Tsuyoshi Koike	TIC-0083	6373

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EXAMINER	
KURR, JASON RICHARD	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/520,889	KOIKE ET AL.	
	Examiner	Art Unit	
	Jason R. Kurr	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/5/05 10/27/05 7/17/06 9/11/06.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Manlove et al (US 4,959,859).

With respect to claim 1, Manlove discloses a separation adjustment circuit (fig.1) for adjusting an intensity ratio between a sum signal and a difference signal in a stereo composite signal and for increasing a separation degree between a stereo right signal and a stereo left signal (col.1 ln.47-62), comprising: a sum signal retrieving unit (fig.1 #14) retrieving a sum signal from the composite signal; a difference signal retrieving unit (fig.1 #16) retrieving a difference signal from the stereo composite signal; a mixing unit (fig.1 #16) mixing the sum signal and the difference signal, thereby obtaining a stereo right signal and a stereo left signal (col.2 ln.17-20); a first adjustment unit (fig.1 #18) adjusting a current amount that flows in the sum signal retrieving unit or the difference signal retrieving unit and adjusting an intensity of the sum signal or an intensity of the difference signal (col.2 ln.21-32, col.3 ln.15-46); and a generation unit (fig.1 #20) generating a control signal for controlling an adjustment operation of the first adjustment unit (col.2 ln.32-38).

With respect to claim 2, Manlove discloses the separation adjustment circuit according to claim 1; wherein the first adjustment unit comprises a plurality of transistors (fig.2 #44,46,48,50) and a selection unit (fig.2 #38) selecting the plurality of transistors based on the control signal, and it adjusts an intensity of the sum signal or an intensity of the difference signal based on a total current amount of the transistors selected by the selection unit (col.3 ln.34-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manlove et al (US 4,959,859) in view of Ohsawa (US 4,049,918).

With respect to claim 3, Manlove discloses the separation adjustment circuit according to claim 1, however does not disclose expressly wherein the circuit further comprises a resistance connected to the output stage, and a second adjustment unit connected in parallel to the resistance.

Ohsawa discloses a circuit for the control of separation between left and right channels (col.3 ln.65-68, col.4 ln.1-7) wherein a resistance (fig.3 "resistance connecting nodes P1 and P2") is connected to an output stage of the circuit; and an adjustment unit

(fig.3 #5) being connected to the resistance in parallel and adjusting a current amount flowing in the resistance (col.4 ln.60-68).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the separation control circuit of Ohsawa as a second adjustment circuit on the output stage of the invention of Manlove.

The motivation for using the separation control circuit on the output of Manlove's would have been to allow a user to manually adjust the degree of separation between the audio channels hence giving a skilled user more control of the output signals.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manlove et al (US 4,959,859) in view of Ishiguro et al (US 4,972,482).

With respect to claim 4, Manlove discloses the separation adjustment circuit according to claim 1, however does not disclose expressly wherein the control signal is generated based on a separation degree between a stereo right signal and a stereo left signal that are outputted from the separation adjustment circuit.

Ishiguro discloses a separation adjustment circuit (fig.7) wherein a control signal (fig.7 "output of #56) is generated based on a separation degree between a stereo right signal and a stereo left signal (fig.7 #46,47) that are outputted from the separation adjustment circuit (col.10 ln.6-30).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the feedback circuit of Ishiguro to update the control signal supplied by the generation unit of Manlove.

The motivation for doing so would have been to provide the system of Manlove with an accurate readjustment signal in order to update the adjustment unit. This would provide the system with information to maximize the degree of separation between the right and left channels.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimizu (US 4,607,381) discloses a signal mixing circuit with channel separation.

Taira (US 6,535,608 B1) discloses a stereo broadcast receiving device with channel separation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-8300. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JK
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